

FARO TrackArm

Features, Benefits & Technical Specifications

FARO®



Features

Versatility

Seamless combination of two portable CMMs into one complete large volume solution

No Line-of-Sight Limitations

6DOF (6-Degrees-of-Freedom) capabilities with no hidden point restrictions

Cost Effective

Large volume measurement at a fraction of the cost of comparable systems

Wireless Freedom

Ultimate portability with cable-free operation

Ease-of-Use

Quickly synchronize devices by collecting points in space

Stand-Alone Capability

Each system can also be used independently when needed, improving efficiency

The most versatile portable 3D measurement system

The FARO TrackArm is the most versatile portable 3D measurement system. It brings together the long range and high accuracy capabilities of FARO's Laser Tracker with the flexibility and consistency of the FaroArm.

The seamless combination of these metrology devices expands the FaroArm's working volume, allowing it to be quickly repositioned anywhere within the Laser Tracker's measurement range while remaining in the same coordinate system.

Best of all, the FaroArm and Laser Tracker are stand-alone portable CMMs that can be used independently or in combination to create this multipurpose FARO TrackArm system.

Benefits

- ▶ Typical Measurement Performance (complete TrackArm system) $80\mu\text{m} + 5\mu\text{m/m}$
- ▶ FaroArm repeatability up to 0.016mm, Tracker distance accuracy up to 0.018mm @ 2m¹
- ▶ 80m Tracker range
- ▶ TruADM instant beam acquisition
- ▶ 6-Degrees-of-Freedom Probe



FARO Edge Specifications

1.8m (6ft) Measuring Range

Volumetric Accuracy: $\pm 0.034\text{mm}$ ($\pm 0.0013\text{in}$)
Single Point Repeatability: 0.024mm (0.0009in)
Weight: 10.7kg (23.6lbs)

2.7m (9 ft) Measuring Range

Volumetric Accuracy: $\pm 0.041\text{mm}$ ($\pm 0.0016\text{in}$)
Single Point Repeatability: 0.029mm (0.0011in)
Weight: 10.9kg (24.1lbs)

3.7m (12 ft) Measuring Range

Volumetric Accuracy: $\pm 0.091\text{mm}$ ($\pm 0.0035\text{in}$)
Single Point Repeatability: 0.064mm (0.0025in)
Weight: 11.3kg (24.9lbs)

FaroArm Test Methods - (Test methods are a subset of those given in the B89.4.22 standard.)

Volumetric Accuracy or Volumetric Maximum Deviation: Determined by using traceable length artifacts, which are measured at various locations and orientations throughout the working volume of the FaroArm. This test is a method for determining articulating measurement machine accuracy.

Single Point Repeatability or Single Point Articulation Performance Test (Max-Min)/2: The probe of the FaroArm is placed within a conical socket, and individual points are measured from multiple approach directions. Each individual point measurement is analyzed as a range of deviations in X, Y, Z. This test is a method for determining articulating measurement machine repeatability.

FARO Prime Specifications

1.2m (4ft) Measuring Range

Volumetric Accuracy: $\pm 0.023\text{mm}$ ($\pm 0.0009\text{in}$)
Single Point Repeatability: 0.016mm (0.0006in)
Weight: 9.1kg (20.0lbs)

1.8m (6ft) Measuring Range

Volumetric Accuracy: $\pm 0.027\text{mm}$ ($\pm 0.0011\text{in}$)
Single Point Repeatability: 0.019mm (0.0007in)
Weight: 9.3kg (20.5lbs)

2.4m (8 ft) Measuring Range

Volumetric Accuracy: $\pm 0.034\text{mm}$ ($\pm 0.0013\text{in}$)
Single Point Repeatability: 0.024mm (0.0009in)
Weight: 9.5kg (21.0lbs)

3.0m (10 ft) Measuring Range

Volumetric Accuracy: $\pm 0.059\text{mm}$ ($\pm 0.0023\text{in}$)
Single Point Repeatability: 0.042mm (0.0017in)
Weight: 9.75kg (21.5lbs)

3.7m (12 ft) Measuring Range

Volumetric Accuracy: $\pm 0.085\text{mm}$ ($\pm 0.0033\text{in}$)
Single Point Repeatability: 0.060mm (0.0024in)
Weight: 9.98kg (22.0lbs)

FARO Vantage Point to Point Accuracy***

In-Line Distance Measurement

Length		2-5m (6.6-16.4ft)	2-10m (6.6-32.8ft)	2-20m (6.6-65.6ft)	2-30m (6.6-98.4ft)	2-40m (6.6-131.2ft)	2-60m (6.6-196.9ft)	2-80*m (6.6-262.5ft)
Distance		3m (9.8ft)	8m (26.2ft)	18m (59ft)	28m (91.9ft)	38m (124.7ft)	58m (190.3ft)	78m (255.9ft)
ADM	MPE	0.018mm (0.0007")	0.022mm (0.0009")	0.030mm (0.0012")	0.038mm (0.0015")	0.046mm (0.0018")	0.062mm (0.0025")	0.078mm (0.0031")
	Typical	0.009mm (0.0004")	0.011mm (0.0004")	0.015mm (0.0006")	0.019mm (0.0008")	0.023mm (0.0009")	0.031mm (0.0012")	0.039mm (0.0015")

*With selected targets. **Product complies with radiation performance standards under the food, drug, and cosmetics act and international standard IEC 60825-1 2001-08. ***MPE and all accuracy specifications are calculated per ASME B89.4.19 - 2006. Variation in air temperature is not included. Specifications, descriptions, and technical data may be subject to change. ****With integrated weather station.

Protected by U.S. patents: 7,327,446 7,352,446 7,466,401 7,701,559 8,040,525 8,120,780



In-Line Distance Measurement

Horizontal Scale Bar Measurement

Horizontal Scale Bar Measurement (2.3m, 7.55ft)									
Range		2m (6.6ft)	5m (16.4ft)	10m (32.8ft)	20m (65.6ft)	30m (98.4ft)	40m (131.2ft)	60m (196.9ft)	80*m (262.5ft)
ADM	MPE	0.044mm (0.0017")	0.064mm (0.0025")	0.099mm (0.0039")	0.170mm (0.0067")	0.240mm (0.0095")	0.311mm (0.0122")	0.453mm (0.0178")	0.594mm (0.0234")
	Typical	0.022mm (0.0009")	0.032mm (0.0013")	0.049mm (0.0019")	0.085mm (0.0033")	0.120mm (0.0047")	0.156mm (0.0061")	0.226mm (0.0089")	0.297mm (0.0117")